Michigan Department of Transportation 5100B (07/07)

CHECKLIST TO DESIGNATE AREAS OF EVALUATION FOR REQUESTS FOR PROPOSAL (RFP)

Exhibit B

MDOT PROJECT MANAGER	JOB NUMBER (JN)	CONTROL SECTION (CS)
Matt Chynoweth	As Needed	84917

DESCRIPTION IF NO JN/CS

As needed surveying services for the Detroit TSC

MDOT PROJECT MANAGER: Check all items to be included in RFP. WHITE = REQUIRED GRAY SHADING = OPTIONAL Check the appropriate Tier in the box below			**CONSULTANT:** Provide only checked items below in proposal.
☐ **TIER I ($25,000-$99,999)**	☐ **TIER II ($100,000-$250,000)**	☒ **TIER III (>$250,000)**	
☐	☐	☒	Understanding of Service
☐	☐	☐	*Innovations*
☐	☐	☐	*Safety Program*
N/A	☐	☒	Organization Chart
☐	☐	☒	Qualifications of Team
☐	☐	☒	Past Performance
Not required as part of official RFP	Not required as part of official RFP	☐	Quality Assurance/Quality Control
☐	☐	☒	**Location:** The percentage of work performed in Michigan will be used for all selections unless the project is for on-site inspection or survey activities, then location should be scored using the distance from the consultant office to the on-site inspection or survey activity.
N/A	N/A	☐	Presentation
N/A	N/A	☐	Technical Proposal (if Presentation is required)
3 pages (MDOT forms not counted) **(No Resumes)**	7 pages (MDOT forms not counted)	19 pages (MDOT forms not counted)	Total maximum pages for RFP **not including key personnel resumes**

REQUEST FOR PROPOSAL

The Michigan Department of Transportation (MDOT) is seeking professional services for the project contained in the attached scope of services.

If your firm is interested in providing services, please indicate your interest by submitting a Proposal, Proposal/Bid Sheet or Bid Sheet as indicated below. The documents must be submitted in accordance with the latest "Consultant/Vendor Selection Guidelines for Service Contracts" and "Guideline for Completing a Low Bid Sheet(s)", if a low bid is involved as part of the selection process. **Referenced Guidelines are available on MDOT's website under Doing Business > Vendor/Consultant Services >Vendor/Consultant Selections.**

RFP SPECIFIC INFORMATION

☑ BUREAU OF HIGHWAYS ☐ BUREAU OF TRANSPORTATION PLANNING ** ☐ OTHER

THE SERVICE WAS POSTED ON THE ANTICIPATED QUARTERLY REQUESTS FOR PROPOSALS

☑ NO ☐ YES DATED _____ THROUGH _____

☑ **Prequalifed Services** – See page 1 of the attached Scope of Services for required Prequalification Classifications.

☐ **Non-Prequalifed Services** - If selected, the vendor must make sure that current financial information, including labor rates, overhead computations, and financial statements, if overhead is not audited, is on file with MDOT's Office of Commission Audits. This information must be on file for the prime vendor and all sub vendors so that the contract will not be delayed.

☑ **Qualifications Based Selection** – Use Consultant/Vendor Selection Guidelines

For all Qualifications Based Selections, the selection team will review the information submitted and will select the firm considered most qualified to perform the services based on the proposals. The selected vendor will be contacted to confirm capacity. Upon confirmation, that firm will be asked to prepare a priced proposal. Negotiations will be conducted with the firm selected.

** **For RFP's that originate in Bureau of Transportation Planning only**, a price proposal must be submitted at the same time as, but separate from, the proposal. Submit directly to the Contract Administrator/Selection Specialist, Bureau of Transportation Planning **(see address list, page 2)**. The price proposal must be submitted in a sealed manila envelope, clearly marked in large red letters **"PRICE PROPOSAL – TO BE OPENED ONLY BY SELECTION SPECIALIST."** The vendor's name and return address MUST be on the front of the envelope. The price proposal will only be opened for the highest scoring proposal. Unopened price proposals will be returned to the unselected vendor(s). Failure to comply with this procedure may result in your bid being opened erroneously by the mail room.

For a cost plus fixed fee contract, the selected vendor must have a cost accounting system to support a cost plus fixed fee contract. This type of system has a job-order cost accounting system for the recording and accumulation of costs incurred under its contracts. Each project is assigned a job number so that costs may be segregated and accumulated in the vendor's job-order accounting system.

☐ **Qualifications Review / Low Bid** - Use Consultant/Vendor Selection Guidelines. See Bid Sheet Instructions for additional information.

For Qualification Review/Low Bid selections, the selection team will review the proposals submitted and post the date of the bid opening on the MDOT website. The notification will be posted at least two business days prior to the bid opening. Only bids from vendors that meet proposal requirements will be opened. The vendor with the lowest bid will be selected. The selected vendor may be contacted to confirm capacity.

☐ **Best Value** - Use Consultant/Vendor Selection Guidelines. See Bid Sheet Instructions below for additional information. The bid amount is a component of the total proposal score, not the determining factor of the selection.

☐ **Low Bid** (no qualifications review required - no proposal required.) See Bid Sheet Instructions below for additional instructions.

BID SHEET INSTRUCTIONS

A bid sheet(s) must be submitted in accordance with the "Guideline for Completing a Low Bid Sheet(s)" (available on MDOT's website). The Bid Sheet is located at the end of the Scope of Services. Submit bid sheet(s) separate from the proposal, to the address indicated below. The bid sheet(s) must be submitted in a sealed manila envelope, clearly marked **"SEALED BID."** The vendor's name and return address MUST be on the front of the envelope. Failure to comply with this procedure may result in your bid being opened erroneously by the mail room and the bid being rejected from consideration.

PROPOSAL SUBMITTAL INFORMATION

REQUIRED NUMBER OF COPIES FOR PROJECT MANAGER	PROPOSAL DUE DATE	TIME DUE
4	12/26/07	4:00 pm

PROPOSAL AND BID SHEET MAILING ADDRESSES

Mail the multiple proposal bundle to the MDOT Project Manager or Other indicated below.

☑ MDOT Project Manager ☐ MDOT Other

Matthew J. Chynoweth
Detroit TSC
1400 Howard Street, Suite B
Detroit, Michigan

Mail one additional stapled copy of the proposal to the Lansing Office indicated below.

	Lansing Regular Mail	OR	Lansing Overnight Mail
☑	Secretary, Contract Services Div - B470 Michigan Department of Transportation PO Box 30050 Lansing, MI 48809		Secretary, Contract Services Div - B470 Michigan Department of Transportation 425 W. Ottawa Lansing, MI 48833
☐	Contract Administrator/Selection Specialist Bureau of Transportation Planning B470 Michigan Department of Transportation PO Box 30050 Lansing, MI 48809		Contract Administrator/Selection Specialist Bureau of Transportation Planning B470 Michigan Department of Transportation 425 W. Ottawa Lansing, MI 48833

GENERAL INFORMATION

Any questions relative to the scope of services must be submitted by e-mail to the MDOT Project Manager. Questions must be received by the Project Manager at least four (4) working days prior to the due date and time specified above. All questions and answers will be placed on the MDOT website as soon as possible after receipt of the questions, and at least three (3) days prior to the RFP due date deadline. The names of vendors submitting questions will not be disclosed.

MDOT is an equal opportunity employer and MDOT DBE firms are encouraged to apply. The participating DBE firm, as currently certified by MDOT's Office of Equal Opportunity, shall be listed in the Proposal

MDOT FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION

5100D – Request for Proposal Cover Sheet
5100G – Certification of Availability of Key Personnel
5100I – Conflict of Interest Statement

(These forms are not included in the proposal maximum page count.)

Michigan Department of Transportation

SCOPE OF SERVICE
FOR
AS NEEDED DESIGN SERVICES
Design Survey

CONTROL SECTION: Various

JOB NUMBER: Various

PROJECT LOCATION: Various locations within the Metro Region

PROJECT DESCRIPTION:

There will be a total of four (4) Consultant awards under this As Needed Scope for Consultant Survey Services.

CPM and R&R projects within the Detroit TSC area. MDOT reserves the right to request surveying services on other projects located in this region.

MDOT reserves the right to request services on other projects located in the Region/TSC area under the conditions of this "As Needed" scope of services.

Full time services will not be required on all projects at all times. This scope is for "As Needed" services, based on the intermittent needs of MDOT. It must be noted that a consultant award under this contract is not a guarantee that MDOT will use the Consultant's services.

ANTICIPATED SERVICE START DATE: March 2008

ANTICIPATED SERVICE COMPLETION DATE: March 2010

PRIMARY PREQUALIFICATION CLASSIFICATION(S):

Photogrammetric Ground Control Survey
Road Design Surveys
Structure Surveys
Hydraulic Surveys
Right-of-Way Surveys

DBE REQUIREMENT: N/A

MDOT PROJECT ENGINEER MANAGER:

Matthew J. Chynoweth, P.E.
Detroit TSC
1400 Howard Street, Suite B
Phone - 313-967-5216
Fax – 313-965-6339
chynowethm@michigan.gov

CONSULTANT RESPONSIBILITIES:

The Consultant will be expected to provide experienced personnel for Design Survey services on an as needed basis for MDOT design projects. Such tasks would include but may not be limited to work in the following areas of survey: Road Design Survey, Hydraulics Survey, Structure Survey, Photogrammetric Ground Control Survey and ROW Survey.

Full time services will not be required on all projects at all times. This contract is for "as needed" services, based on the intermittent needs of the MDOT Metro Region. It must be noted that a consultant award under this contract is not a guarantee of consultant Authorization.

The Project Manager will contact the Consultant for specific services through a **Request for Consultant Survey Staff Letter**, example Attachment C of this Scope of Services, stating the MDOT job number and control section, route, survey services needed, the project duration, and a timeframe in which the work shall be required for completion. The Consultant will then review this request and inform MDOT of their availability and willingness to work on this project, as well as the names of the Consultant's personnel chosen to work on the project within two days of receiving the Request for Consultant's Survey Staff. An estimated cost will also be submitted to MDOT prior to the Consultant beginning work. Every attempt will be made to submit requests at least one week prior to the need for personnel. If the Consultant accepts the MDOT work assignment a meeting will be set up between MDOT and the Consultant to review the information in the Request for Consultant Survey Staff Letter and the Consultant's proposal and personnel.

This contract will cover "as needed" services for a period of 1 year from date of initial Authorization. The consultant may work on an "as needed" basis for up to $ 250,000. The Consultant may not work on any more than one (1) "as needed" job at any given time, unless directed by the Project Manager.

TRAFFIC CONTROL

The Consultant shall be responsible for all traffic control required to perform the tasks as outlined in this Scope of Design Services.

MDOT PERMITS

The Consultant shall be responsible for obtaining up to date access permits and pertinent information for tasks in MDOT Right of Way (ROW). This information can be obtained through Joe Rios, Utilities/Permits Section, Real Estate Division at (517) 241-2103.

MONTHLY PROGRESS REPORT

On the first of each month, the Consultant Project Manager shall submit a monthly project progress report to the Project Manager.

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST **10/17/2007**

Please indicate with a check in the box next to each task number whether you believe that task will require consultant involvement on the job. Milestones (a specific event at a point in time) are italicized and underlined. See the P/PMS Task Manual for more details.

Study (Early Preliminary Engineering)

Yes	No	P/PMS Task Number and Description	Date To Be Completed (mm/dd/yyyy)
		EPE Scoping Analysis	
☐	☐	2120 Prepare Traffic Analysis Report	__/__/____
☐	☐	2130 Prepare Project Justification	__/__/____
☐	☐	*213M Concurrence by Regulatory Agencies with the Purpose and Need*	__/__/____
☐	☐	2140 Develop and Review Illustrative Alternatives	__/__/____
☐	☐	2155 Request/Perform Safety Analysis	__/__/____
☐	☐	2160 Prepare and Review EIS Scoping Document	__/__/____
☐	☐	*211M Public Information Meeting*	__/__/____
		EPE Draft Analysis	
☐	☐	2310 Conduct Technical SEE Studies	__/__/____
☐	☐	2321 Prepare for Aerial Photography	__/__/____
☐	☐	2322 Finish/Print Aerial Photography	__/__/____
☐	☐	2330 Collect EPE Geotechnical Data	__/__/____
☐	☐	2340 Develop and Review Practical Alternatives	__/__/____
☐	☐	*233M Aerial Photography Flight*	__/__/____
☐	☐	*234M Concurrence by Regulatory Agencies with the Alternatives for Study*	__/__/____
☐	☐	2360 Prepare and Review EA or DEIS	__/__/____
☐	☐	*231M Draft Submission to FHWA*	__/__/____
☐	☐	2380 Circulate EA or DEIS	__/__/____
☐	☐	*232M Public Hearing*	__/__/____
		EPE Final Analysis	
☐	☐	2510 Determine and Review Recommended Alternative	__/__/____
☐	☐	*250M Concurrence by Regulatory Agencies with Recommended Alternative*	__/__/____
☐	☐	2525 Prepare and Review Engineering Report	__/__/____
☐	☐	2530 Prepare and Review Request for FONSI or FEIS	__/__/____
☐	☐	*252M Final Submission to FHWA*	__/__/____
☐	☐	2550 Obtain FONSI or ROD	__/__/____
		Contamination Investigation	
☐	☐	2810 Project Area Contamination Survey (PCS)	__/__/____
☐	☐	2820 Preliminary Site Investigation (PSI) for Contamination	__/__/____

Preliminary Engineering

Yes	No	P/PMS Task Number and Description	Date To Be Completed (mm/dd/yyyy)
		Design Scope Verification and Base Plans Preparation	
☐	☐	3130 Verify Design Scope of Work and Cost	__/__/____
☐	☐	3310 Prepare Aerial Topographic Mapping __/__/____	
☐	☐	3320 Conduct Photogrammetric Control Survey	__/__/____
☐	☐	3321 Set Aerial Photo Targets	__/__/____
☒	☐	3330 Conduct Design Survey	__/__/____
☒	☐	3340 Conduct Structure Survey	_/__/____
☒	☐	3350 Conduct Hydraulics Survey	__/__/____
☐	☐	3360 Prepare Base Plans	__/__/____
☐	☐	*311M Utility Notification*	__/__/____
☐	☐	3361 Review and Submit Preliminary ROW Plans	__/__/____
☐	☐	*331M Preliminary ROW Plans Distributed*	__/__/____
☐	☐	3370 Prepare Structure Study	__/__/____
☐	☐	3375 Conduct Value Engineering Study	__/__/____
☐	☐	3380 Review Base Plans	__/__/____
☐	☐	*332M Base Plan Review (Pre-GI Inspection)*	__/__/____
☐	☐	3390 Develop the Maintaining Traffic Concepts	__/__/____
		Preliminary Plans Preparation	
☐	☐	3510 Perform Roadway Geotechnical Investigation	__/__/____
☐	☐	3520 Conduct Hydraulic/Hydrologic and Scour Analysis	__/__/____
☐	☐	3522 Conduct Drainage Study, Storm Sewer Design, and use Structural Best Management Practices	__/__/____
☐	☐	3530 Conduct Structure Foundation Investigation	__/__/____
☐	☐	3535 Conduct Structure Review for Architectural and Aesthetic Improvements	__/__/____
☐	☐	3540 Develop the Maintaining Traffic Plan	__/__/____
☐	☐	3551 Prepare/Review Preliminary Traffic Signal Design Plan	__/__/____
☐	☐	3552 Develop Preliminary Pavement Marking Plan	__/__/____
☐	☐	3553 Develop Preliminary Non-Freeway Signing Plan	__/__/____
☐	☐	3554 Develop Preliminary Freeway Signing Plan	__/__/____
☐	☐	3555 Prepare/Review Preliminary Traffic Signal Operations	__/__/____
☐	☐	3570 Prepare Preliminary Structure Plans	__/__/____
☐	☐	3580 Develop Preliminary Plans	__/__/____
☐	☐	3581 Review and Submit Final ROW Plans	__/__/____
☐	☐	*351M Final ROW Plans Distributed*	__/__/____
☐	☐	3590 Review Preliminary Plans (Hold Plan Review Meeting)	__/__/____
☐	☐	*352M THE Plan Review (Grade Inspection)*	__/__/____

Preliminary Engineering (cont'd)

Yes	No	P/PMS Task Number and Description	Date To Be Completed (mm/dd/yyyy)
		Utilities	
☐	☐	3610 Compile Utility Information	__/__/____
☐	☐	3660 Resolve Utility Issues	__/__/____
☐	☐	*360M Utility Conflict Resolution Plan Distribution*	__/__/____
☐	☐	*361M Utility Meeting*	__/__/____
☐	☐	3670 Develop Municipal Utility Plans	__/__/____
☐	☐	3672 Develop Special Drainage Structures Plans	__/__/____
☐	☐	3675 Develop Electrical Plans	__/__/____
		Mitigation/Permits	
☐	☐	3710 Develop Required Mitigation	__/__/____
☐	☐	3720 Submit Environmental Permit Applications	__/__/____
☐	☐	3730 Obtain Environmental Permit	__/__/____
		Final Plan Preparation	
☐	☐	3821 Prepare/Review Final Traffic Signal Design Plan	__/__/____
☐	☐	3822 Complete Permanent Pavement Marking Plan	__/__/____
☐	☐	3823 Complete Non-Freeway Signing Plan	__/__/____
☐	☐	3824 Complete Freeway Signing Plan	__/__/____
☐	☐	3825 Prepare/Review Final Traffic Signal Operations	__/__/____
☐	☐	3830 Complete the Maintaining Traffic Plan	__/__/____
☐	☐	3840 Develop Final Plans and Specifications	__/__/____
☐	☐	*380M Plan Completion*	__/__/____
☐	☐	3850 Develop Structure Final Plans and Specifications	__/__/____
☐	☐	3870 Hold Omissions/Errors Check (OEC) Meeting	__/__/____
☐	☐	*387M Omissions/Errors Checks Meeting*	__/__/____
☐	☐	*389M Plan Turn-In*	__/__/____
☐	☐	3880 CPM Quality Assurance Review	__/__/____

Preliminary Engineering – Right Of Way

Yes	No	P/PMS Task Number and Description	Date To Be Completed (mm/dd/yyyy)
		Early Right Of Way Work	
☐	☐	4120 Obtain Preliminary Title Commitments	__/__/____
☐	☐	4130 Prepare Marked Final Right Of Way Plans	__/__/____
☐	☐	*413M Approved Marked Final ROW*	__/__/____
☐	☐	4140 Prepare Property Legal Instruments	__/__/____
		ROW Acquisition	
☐	☐	4411 Preliminary Interviews	__/__/____
☐	☐	*441M Post-Decision Meeting*	__/__/____
☐	☐	4412 Real Estate Services Assignment Proposal and Fee Estimate (Form 633s) for Appraisal Work Authorization	__/__/____
☐	☐	4413 Appraisal Reports	__/__/____
☐	☐	4420 Appraisal Review Reports	__/__/____
☐	☐	4430 Acquire Right Of Way Parcels	__/__/____
☐	☐	4510 Conduct Right Of Way Survey & Staking	__/__/____
		ROW Relocation	
☐	☐	4710 Relocation Assistance	__/__/____
☐	☐	4720 Prepare Improvement Removal Plan	__/__/____
☐	☐	*442M ROW Certification*	__/__/____

MDOT RESPONSIBILITIES:

The MDOT reserves the right to grant final work authorization based on the Consultant's understanding of the specific survey project tasks and personnel. If the Consultant is unable to fulfill a request MDOT may utilize a different Consultant awarded under this As Needed Scope for Consultant Survey Services.

A. Schedule and/or conduct project related meetings.

B. Direct the consultant as to when surveys will be needed for projects.

PAYMENT SCHEDULE

Compensation for this Scope of Services shall be on an **actual cost plus fixed fee** basis.

CONSULTANT PAYMENT:

All invoices/bills for services must be directed to the Department and follow the 'then current' guidelines. The latest copy of the "Professional Engineering Service Reimbursement Guidelines for Bureau of Highways" is available on MDOT's Bulletin Board System. This document contains instructions and forms that must be followed and used for invoicing/billing; payment may be delayed or decreased if the instructions are not followed.

Payment to the Consultant for Services rendered shall not exceed the "Actual Cost Plus Fixed Fee, Not to Exceed Maximum Amount" unless an increase is approved in accordance with the contract with the Consultant. All invoices/bills must be submitted within 14 calendar days of the last date of services being performed for that invoice.

Direct expenses will not be paid in excess of that allowed by the Department for its own employees in accordance with the State of Michigan's Standardized Travel Regulations. Supporting documentation must be submitted, with the invoice/bill, for all billable expenses on the Project. The only hours that will be considered allowable charges for this contract are those that are directly attributable to the activities of this Project.

The use of overtime hours is not acceptable unless prior written approval is granted by the MDOT Region Engineer/Bureau Director and the MDOT Project Engineer Manager. Reimbursement for overtime hours that are allowed will be limited to time spent on this project in excess of forty hours per person per week. Any variations to this rule should be included in the priced proposal submitted by the Consultant and must have prior written approval by the MDOT Region Engineer/Bureau Director and the MDOT Project Engineer Manager.

This scope is for "as needed" services. As such, the hours provided are only an estimate. The Consultant will be reimbursed a proportionate share of the fixed fee based on the portion of the authorized total hours in which services have been provided to the Department. The fixed fee allowed for this project will be 11.0%. Fixed fee on "as needed" projects is computed by taking the percent of actual labor hours invoiced to labor hours authorized, then applying that percentage to the total fixed fee authorized.

FOR YOUR INFORMATION

For questions on specific tasks, refer to the P/PMS Task Manual located on the MDOT Bulletin Board System.

For assistance in accessing this manual, please contact one of following:

Dennis Kelley: (517) 373-4614

Tonya Nobach: (517) 335-1927

ATTACHMENT A

SURVEY SCOPE OF WORK

As of 10/18/07

Survey Limits: As needed for Design, Right of Way, and Construction. A description of survey limits detailing length, width and cross roads must be included in the Survey Work Plan.

NOTES: The Selected Consultant shall discuss the scope of this survey with an MDOT Region Surveyor or an MDOT Lansing Design Surveyor before submitting a priced proposal.

The Selected Consultant surveyor must contact the Region or TSC Traffic and Safety Engineer for work restrictions in the project area prior to submitting a priced proposal.

A **detailed Survey Work Plan must** be included in the project proposal. A **spreadsheet estimate** of hours by specific survey task such as traversing, leveling, mapping, etc. **must** be included in the **priced proposal**.

It is the responsibility of the Professional Surveyor to safeguard all corners of the United States Public Land Survey System, published Geodetic Control and any other Property Controlling corners that may be in danger of being destroyed by the proposed construction project.

GENERAL REQUIREMENTS:

1. Surveys must comply with **all Michigan law** relative to land surveying.

2. Surveys must be done under the **direct supervision** of a Professional Surveyor licensed to practice in the State of Michigan.

3. Work in any of the following categories of survey: Road Design, Structure, Hydraulic, Right-of-Way, and/or Ground Control (Photogrammetric) must be completed by a survey firm which is pre-qualified by MDOT for that category.

4. Surveys must meet all requirements of the Michigan Department of Transportation (MDOT) Design Surveys *Standards of Practice* dated March 2007, the MDOT Design Survey Manual on-line, and the MDOT RTK guidelines. Please contact the Design Survey office to clarify any specific questions regarding these standards.

5. Consultants must obtain all necessary permits required to perform this survey on any public and/or private property, including an up-to-date permit from the MDOT Utilities Coordination and Permits Section.

6. Prior to performing the survey, the Consultant must contact all landowners upon whose lands they will enter. The contact may be personal, phone or letter, but must be documented. This notice must include the reasons for the survey on private land, the approximate time the survey is to take place, the extent of the survey including potential brush cutting (which must be minimized), and an MDOT contact person (the MDOT Project Manager or designate).

7 The Consultant must contact any and all Railroads prior to commencing field survey on railroad property. The cost for any permit, flaggers and/or training that is required by the Railroad will be considered as a direct cost, but only if included in the Consultant's priced proposal.

8. The Consultant must adhere to all applicable OSHA and MIOSHA safety standards, including the appropriate traffic signs for the activities and conditions for this job.

9. Consultants are responsible for a comprehensive and conscientious research of all records, including MDOT records, essential for the completion of this project.

10. Measurements, stationing, recorded data, and computations must be in **International Feet**, unless specified otherwise by the MDOT Project Manager.

11. Coordinate values shall be based upon the Michigan State Plane coordinate system NAD83 (CORS). All elevations must be based upon the North American Vertical Datum of 1988 (NAVD88). The datums must be clearly stated in the Survey Work Plan. A preliminary submittal of the adjusted Horizontal and Vertical control for the project may be submitted to the MDOT Survey Consultant Coordinator or Region Surveyor for review and acceptance as soon as it is available.

12. The survey notes must be submitted to the Design Survey Unit in 10" by 12" divided portfolios with flap covers. As many portfolios should be used as are needed to contain all of the required documents and Compact Discs (CD's) or DVD's. **Duplicate CD's must be included in the portfolio, with one set labeled "Region Surveyor".**

13. Each portfolio must be labeled on the outside as in the following example:

    Survey Notes for:
    Route, Location and Project Limits [I-94 under Beaubien Street]
    Control Section [S06 of 82024] Job Number [45197D] Date [*of submittal*]
    By [*Name of Firm*]
    Michigan Professional Surveyor [ ] License # [ ]

14. Each submittal is to be divided into six sections. These sections are to be labeled as follows: **Administrative, Alignment, Control**, **Property**, **Mapping**, and **Miscellaneous**.

15. **All data**, whether electronic or paper, **must be recorded on non-rewritable Compact Discs (CD's) or DVD's**. All paper files, including MicroStation files, must be scanned and/or converted to Adobe Acrobat .PDF format. CD's must be organized in the same manner as the portfolio, such as by Administrative section, Control section, etc. A Table of Contents in Adobe Acrobat format is required that has all .PDF pages of the CD bookmarked/linked so each place in the .PDF archive can be accessed with a single click of the computer mouse. Specified format files such as ASCII text, CAiCE and MicroStation must have separate access in native format outside of the .PDF file. CD's must be labeled with the control section, job number, data type and file names. It is not necessary to label each individual paper page in the portfolio.

16. Each category of survey must be packaged separately (i.e., Structure surveys separate from Road surveys and Hydraulic surveys). CD's must be labeled with the Control Section, Job Number, data type and file names.

17. The Consultant representative shall record and submit typewritten minutes for all project related meetings to the MDOT Project Manager within two weeks of the meeting. The Consultant shall also distribute the minutes to all meeting attendees.

18. The MDOT Project Manager is the official contact for the Consultant. The Consultant must send a copy of all project correspondence to the MDOT Project Manager. The MDOT Project Manager shall be made aware of all communications regarding this project. Any survey related questions regarding this project should be directed to a Survey Consultant Project Manager or MDOT Region Surveyor.

At the completion of this survey for this project, legible copies of all field survey notes, all electronic data, and all research records obtained for this project will be considered the property of MDOT and **must be sent to** the MDOT, Design Support Area, Supervising Land Surveyor, P.O. Box 30050, Lansing, MI 48909. Please use MDOT's Form 222(5/01) entitled "SURVEY NOTES: RECEIPT AND TRANSMITTAL" for all transmittals. A copy of this transmittal form must also be sent to the MDOT Project Manager for Design.

Acceptance of this survey by the MDOT Supervising Land Surveyor and/or the MDOT Project Manager does not relieve the Consultant of any liability for the content of the survey.

WORK RESTRICTIONS

The Selected Consultant and the Selected Consultant only, is advised to discuss Traffic Control scenarios with the MDOT Traffic and Safety Engineer at the closest MDOT TSC prior to submitting a priced proposal.

No work shall be performed or lane closures allowed during the Memorial Day, July 4th, or Labor Day holiday periods, as defined by the MDOT Project Manager or representative specifically designated by the Project Manager.

The Consultant must call the MDOT Region or TSC Traffic and Safety Engineer before beginning work to inform him or her of surveying activity in the area. The MDOT Region or TSC must be notified at least two weeks prior to lane closures so advance notice can be posted on the Web site.

Traffic shall be maintained by the Consultant throughout the project in accordance with Sections 812, 922, 103.05 and 103.06 of the *Standard Specifications for Construction,* 2003 edition, www.mdot.state.mi.us/specbook/, and Supplemental Specification 03SS001(2) Errata to the 2003 Standard Specifications and all other supplemental specifications currently in effect against the Standard Specifications for Construction. All traffic control devices shall conform to the current edition, as revised, of the *Michigan Manual of Uniform Traffic Control Devices* (MMUTCD). All warning signs for maintenance of traffic used on this project shall be fabricated with prismatic retro-reflective sheeting, and shall be set up five feet above ground.

The Consultant shall use MDOT standard "maintaining traffic" typicals for any and all closures.

Typical MDOT traffic control diagrams are available on line at www.mdot.state.mi.us/tands/plans.cfm

COORDINATION WITH OTHER CONTRACTS IN THE VICINITY

The Consultant shall coordinate his operations with contractors performing work on other projects within or adjacent to the Construction Influence Area (CIA).

The Consultant's attention is called to the requirements of cooperation with others as covered in Article 104.07 of the 2003 Standard Specifications for Construction. Other contracts or maintenance operations may occur during the life of the project.

No claim for extra compensation or adjustment in contract unit prices will be allowed on account of delay or failure of others to complete work unit scheduled.

FIELD SURVEY

The purpose of the field survey is to obtain all information and data required by the project design engineer, to leave control in the field for future construction staking, and to provide a sufficient history of the area to enable the MDOT Design Survey Unit to perform dependable surveys in the future. The Consultant surveyor must discuss the scope of this survey with the project design engineer before initiating any work on this project. Notes of this meeting and a detailed Survey Work Plan with an estimate of hours broken down by specific survey task must be submitted to the MDOT Project Manager and Survey Consultant Project Manager within two weeks of this meeting.

CONTROL

A three dimensional control system must be established throughout the project area. This control shall be based on the Michigan State Plane Coordinate System NAD1983 (CORS) horizontal datum and NAVD 1988 vertical datum. All subsequent control must be based on the established control. Any traverse points or bench marks established must adhere to the Michigan Department of Transportation (MDOT) Design Surveys *Standards of Practice* dated March 2007 and be listed in the Control pocket of the portfolio. Contact the MDOT Survey Consultant Coordinator for existing control in the area.

OPUS positioning may be used as a check, and for positioning Primary Control as defined in the MDOT Standards of Practice for Design Survey March 2007. For any and all OPUS solutions, a RINEX format file with a minimum of two hours of GPS data must be included, as well as the OPUS solution (extended version) from NGS. All OPUS solutions must be verified within 0.20 foot, either by a separate OPUS solution from an independent occupation, or by a NGS/CORS adjustment.

If GPS-derived elevations are used, the Surveyor's Report and the Witness List and Witness Sheet for the project must clearly state that the vertical datum is "NAVD 1988 GPS-derived from Geoid 03."

A mapping control point that is a rebar in the ground should not be considered a benchmark. The elevation of a rebar that is a control point should be verified or re-established prior to use as a benchmark.

The Witness list sheet for this project must have a formula for grid to ground conversion, and a statement that a mapping control point that is a rebar in the ground should not be considered a benchmark, and its elevation should be verified or re-established prior to use.

All Witness lists, for horizontal control, benchmarks, government corners, and alignment points, must use all capital letters exclusively. Capital letters are easier to read on half-size plan sheets.

GOVERNMENT CORNERS

Any PLSS corners within the project limits must be recovered or established and tied to the project coordinate system. Any PLSS corners necessary for legal alignment determination and/or property ties for Right of Way issues must be recovered or established and tied to the project coordinate system.

All PLSS corners must be recorded in accordance with PA 74 of 1970, as amended, and all applicable administrative rules. A copy of each recorded Land Corner Recordation Certificate must be submitted to the MDOT Design Survey Office as part of the final report. All PLSS corners located in hard surface roads must be protected by a monument box, regardless of impending construction. The Consultant shall provide to the Survey Consultant Project Manager a list of any affected Government or Property Controlling Corners in the detailed work plan for

discussion or approval.

The Consultant surveyor must contact the County Remonumentation Representative prior to beginning work on the project to inform him of proposed corner perpetuation activities, and to obtain information pertinent to PLSS corners and/or property controlling corners affected by project construction.

All **monument boxes** through the project area must be accounted for by the Consultant surveyor, shown on the project mapping, and have a recorded LCRC submitted in the survey portfolio.

ALIGNMENT

Since most existing alignment points locate and define the boundary between the public Right of Way and private ownership, legal alignment points are considered Property Controlling Corners and must be recovered and recorded in accordance with PA 74 of 1970, as amended, and all applicable administrative rules. A copy of each recorded Land Corner Recordation Certificate must be submitted in the Property Section of the final portfolio.

The Consultant must clearly define in the Work Plan what type of alignment(s) is proposed, Legal or As Constructed, how the stationing will be established, and whether or not the alignment(s) will be staked in the field.

An **alignment sheet** must be prepared and submitted that shows the alignment(s) with stationing and coordinates, and the source of stationing, curve data, and the alignment definition (As Constructed or Legal). All alignments must be **annotated** as in the following examples: As Constructed alignment for CS 45011 as surveyed in 2006, or Legal Alignment of 1952 for CS 38016 as surveyed in 2007. Showing government corners with distances along government lines to the alignment are also appropriate for this CADD drawing. MicroStation is the recommended format. Some tangents may be graphically shortened to "shrink" the drawing to fit paper size.

The Consultant must provide an **alignment control point list with witnesses** in ASCII format for all alignment points found or set. This list must include include datum, point designations, descriptions, coordinates, combined Scale Factor, and witnesses. This list may be appended to the witness list for horizontal and vertical control points. Witness lists must use only uppercase letters.

All **monument boxes** through the project area must be accounted for by the Consultant surveyor, shown on the project mapping, and have a recorded LCRC submitted with the survey portfolio.

MAPPING

The Consultant must submit a **CAiCE software file, named MDOTjob#.zip**, utilizing CAiCE's built-in archive feature, of all survey mapping points and data files for the mapping area. If a Digital Terrain Model is needed for the project, it must be created in CAiCE and named EXRD.

The CAiCE software used must be Version 10.6 or newer.

The Consultant is responsible for using the latest MDOT CAiCE Feature Codes, files and Plans Production tugboat (macro), available on the MDOT Design Survey File Transfer Protocol (FTP) site at **ftp://ftp.michtrans.net**/. The consultant Username is "survcons." The consultant Password is $urvcon$. The tugboat can also be used to convert CAiCE files into Geopak and MicroStation formats.

The Consultant must provide an electronic **MicroStation Intergraph Version 8 format file** of the mapping area. This must be named MDOTjob#pl.dgn, for example **79023Cpl.dgn,** and must be submitted **in a sub-directory outside of the CAiCE archive file** named "MicroStation." The MicroStation file will be a 2-D file of the planimetric features including contours. This file must be sized appropriately, utilize the seed file **seedrd_c.dgn** with working units of 1000, 1, and be compiled in standard MDOT format. The Consultant is responsible for using the latest MDOT Resource files, color table, and cell files, available on the MDOT File Library site under CAD_V8. Go to http://mdotwas1.mdot.state.mi.us/public/bbs/

For a comprehensive list of MicroStation level designations, contents and line attributes, refer to the "MDOTV8LEVEL.pdf" table located on the MDOT Design Survey File Transfer Protocol web site. This table replaces the former Attachments AA, C & D. Also in the ftp site, the Consultant should refer to the V8GROUP&ALPHA LIST.pdf file for Data Collection Codes.

The Consultant must also submit **files created from CAiCE that are formatted for design in Geopak** software. This can be accomplished by using the MDOT Plans Production CAiCE Tugboat available on the MDOT Design Survey FTP site. The Consultant must submit a 3D MicroStation Triangle file, a Survey Chain (TIN Boundary) around the edited Triangle file with the name and Feature "CLIP", a Job#.OBS file, a Job#.KCP file, a Job#.XYZ file and a Job#.ALI file. Each alignment must be computed separately and uniquely named to include the JN and a description, such as 79585_AsC_Wbd.ALI. These files must be submitted electronically **in a subdirectory outside of the CAiCE archive file** named "Geopak."

POST SURVEY CLEAN-UP

Once the survey is complete, all stakes must be removed to aid the maintenance crews and adjacent property owners. All benchmarks and control points and their witnesses must remain in place.

FINAL REPORT: DELIVERABLES

The final report for this project shall include:

1. In the first pocket of the portfolio, labeled **ADMINISTRATIVE**, the following will appear:
   a. MDOT's Form 222(5/01) entitled "SURVEY NOTES: RECEIPT AND TRANSMITTAL"
   b. The project's Professional Surveyor's Report on company letterhead consisting of:

i) A comprehensive synopsis of the work performed on this project, signed **and sealed** by the project's Professional Surveyor.
ii) The source and methods used to establish the project horizontal and vertical control and alignment(s) for this project.
iii) A detailed explanation of anything discovered during the survey of this project that may create a problem for the designer or another surveyor.

c. CD or DVD with all documents scanned or converted into PDF files. Each page must be inserted in a master PDF file and bookmarked for easy retrieval. An example can be provided upon request.
d. MDOT QA/QC Checklist.

2. In the second pocket of the portfolio, labeled **ALIGNMENT**, the following will appear:
   a. An annotated CADD drawing of the alignment(s), showing:
      i) A statement defining the alignment(s) as **legal or as constructed**
      ii) Stationing, source of stationing, and station equation to existing stationing
      iii) Horizontal coordinates of P.I.'s, at a minimum
      iv) Curve data
      v) Alignment points found or set
      vi) Control points
      vii) Reference lines and angles of crossing (if appropriate)
      viii) Government corners and ties to government lines
   b. Witness list for the alignment points found or set, which shows coordinates, stationing and four witnesses for each alignment point. Witness lists must use only uppercase letters.
   c. LCRC's for alignment points found.

3. In the third pocket of the portfolio, labeled **CONTROL**, the following will appear:
   a. Documentation of horizontal and vertical datum sources.
   b. OPUS documentation
   c. Least squares adjustments for the horizontal and vertical control.
   d. Text files in ASCII format, hard copy and on CD, which contain the witness lists for the horizontal alignment ties, horizontal control points, benchmarks and government corners. All witness lists must note the datum(s), a combined scale factor for state plane grid-to-ground conversion, and an example thereof. Witness lists must use only uppercase letters.
   e. A MicroStation V8 file showing the data in d. above.

4. In the fourth pocket of the portfolio, labeled **PROPERTY**, the following will appear:
   a. Tax maps and descriptions with owner names, addresses and phone numbers, if Right of Way is to be acquired.
   b. Maps, plats, and recorded surveys.
   c. Documents such as plats, Act 132 Certificates and/or tax maps marked with point numbers as property ties, if Right of Way is to be acquired.
   d. Legible **recorded** copies of all Land Corner Recordation Certificates (LCRC) filed for the government corners (PLSS corners and Property Controlling Corners) used for computations and/or in danger of obliteration by impending construction.

5. In the fifth pocket of the portfolio, labeled **MAPPING**, the following will appear:
   a. Mapping file in MicroStation V8 format, and also converted to .PDF format. Hardcopy signed and sealed. All point and line descriptions must use only upper case letters.
   b. An archived CAiCE software file.
   c. Geopak files.
   d. All field survey notes and electronic mapping data used for the project. It is not necessary to submit electronic raw survey data in hardcopy form.
   e. All supporting and supplemental information or data, such as drainage and utilities, electronically only if possible.

6. In the sixth pocket of the portfolio, labeled **MISCELLANEOUS**, the following will appear:
   a. Any photographs taken for clarity of an area
   b. Any newspaper clippings related to the project
   c. Any information not covered in this scope that will be of benefit to the designer or another surveyor

General Notes

   a. It is the responsibility of the Consultant to insure that all electronic files submitted to MDOT conform to the required format and that all documents are legible.
   b. The Consultant must organize and label the various sections of the portfolio as required by the Standards of Practice for MDOT Design Surveys dated March 2007.
   c. All research documents are required to be scanned and placed on the CD.
   d. It is desirable to limit paper and to include as much electronic data as possible on Compact Disc or DVD, including scanned items, to facilitate future electronic storage and transmission of survey data. **Duplicate CD's must be included in the portfolio, with one set labeled "Region Surveyor".**